Tech Saksham

"Government Arts and Science College, Aundipatti"

Case Study Report

Data Analytics with Power BI

Supply Chain Analysis Of

Invertories

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INTRODUCTION:

What is Power BI:

Power BI is a data visulaization and Business intelligence tool that converts data from different data sources to interactive dashboards and BI reports. power BI suite provides multiple software, connector, and services   - Power BI desktop, Power BI sercices based on saas, and mobile Power BI apps available for different platforms. These sets of services are used by businuss user to consume apnd build BI reports.

Power BI tools:

Power BI is a technology - driven business intelligence tool provided by Microsoft for analysing and visuailizing, and best practices that help an organization to make data driven decision.

Use of power BI:

The use of Power BI could depends on the role that you are in.

For example:

If you are the stakeholder of the project, then you might want to use power BI Services or the Mobile app to have a glance at how the Business is performing. But on the other hand , if you are a developer, you would be using Power BI Desktop extensively to publish Power BI Desktop reports to the Power BI Service.

Power BI

Microsoft's Power BI is a common business intelligence tool used by business analysts and professionals. Learn more about this important tool today. Microsoft Power BI is a data visuailazation and reporting platform that is used by and professionals every day.

Power BI dashboard:

A Power BI dashboard is a single page, often called a canvas, that tells a story through visulaizations. Because it limited to one page, a well-designed dashboard contains only the highlights of that story. Reader can view related report for the details.

Power BI Process:

Power BI is a technology driven business intelligence tool provided by Microsoft for analysing and visuailizing raw data to present actionable information.
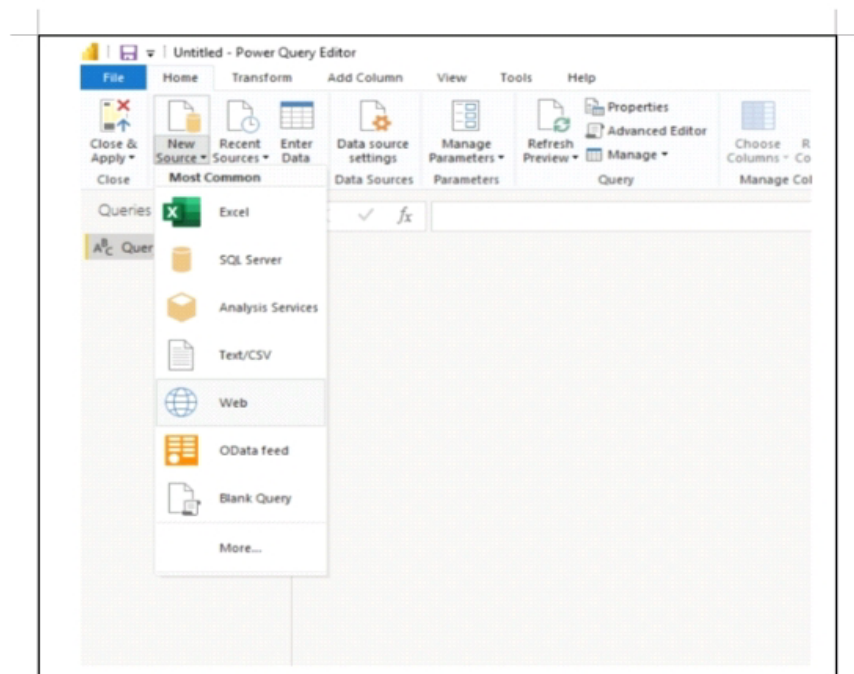
- Data Acquistion

- Data enhancement

- Data presentation
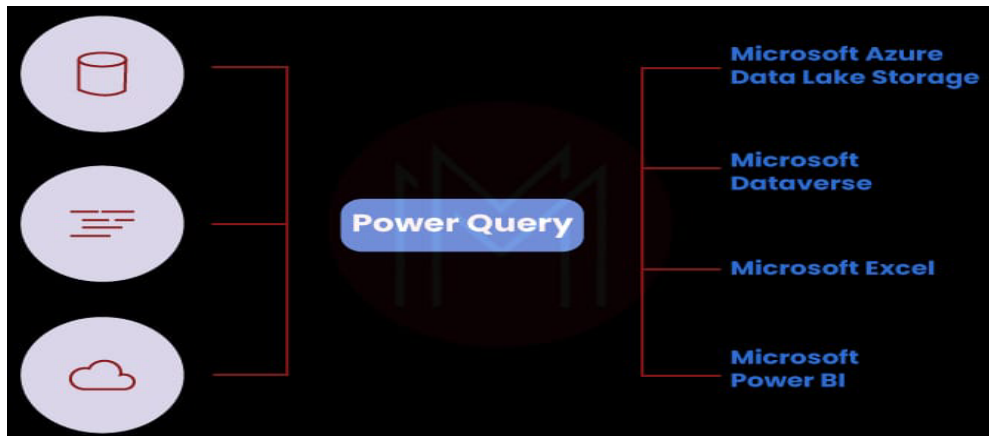
POWER QUERY EDITOR:

Power Query is a Powerful Power BI tool that takes care of Power BI operations in locating, connecting, and loading diversified data across various sources. It also shapes and transforms the imported data so that it can be used to create visualse. It is also refered to as a self-service ETL tool in Power BI since it is self-sufficient to extract , load , and also transform data. It can be accessed in Power BI desktop by going to the Get Data option in the Home menu.

Impoting Data In Power Query Editor:

To get more insights on Power Query Editor features, let us load a sample Web data into it . We load the web data set of TechStocks which contains the daily Stock prices information of three companies: Apple,Google,Microsoft.

Our editor now looks much more active and Interactive. The dataset can be seen imported at the center in the data pane. Let us study the changes it developed:

Advcantage of Power Query:

Free of cost

Vast data sources

Excel Integration

User-friendly

Non-Repetitive tasks

M-Language

THE RIBBON:

At the top we have the familier Microsoft Ribbon. just like the ribbons in Microsoft Excel and Word and Powerpoint,the Power BI Ribbons is filled with tools split up into different tabs.
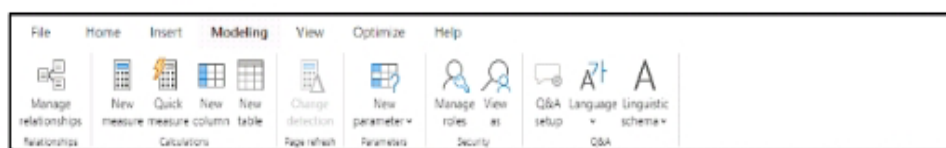
RIBBON TABS:

The HOME tabs tools for adding data sources,

accessing Power Query Editor (used for cleaning and transforming data) via the Transform data buttons,and adding visuals and more.

The VIEW tab let us to set a theme for our reports, set as a mobile layouts, and access other pans that dont show up the

The MODELING tabs lets us create DAX measures, or even new columnsand tables, and also let us set up a security model we some need some users to only see some data.

The INSERT tab lets us insert different visual, text boxes , shapes and images.
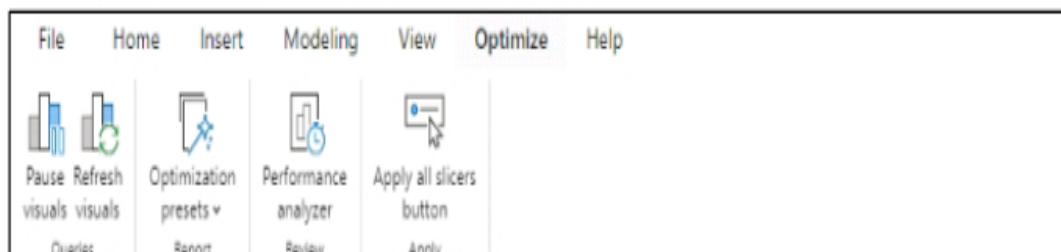
default.

The HELP tab has link to things like Microsoft fourms Power BI

The UPTIMIZE tab has tools to check the efficiency of our reports... as in if they are loading, really slow, we can analyze what part of the report or loading really slowly.

blog which has about new features .

The EXTERNAL TOOLS tab is where 3-rd party tools live. There are only a few of these okay'd by Microsoft , and if you haven't download one , this tab doesn't show up.
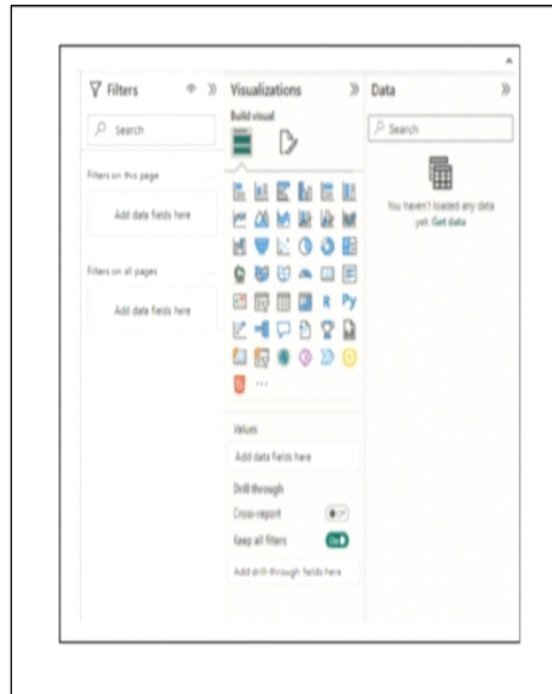
PANE:

One of the right side of the Power BI interface are 3 panes that appear by default.

The DATA pane is where we see the tables and columns of the data we added

The VISUAILAZATION pane is where we can choose

what visual we want to make, and it also has formating tools.

The FILTER is where we can create filters and control what data is making it from our data to the visual on our Canvas

Supply chain management plays an important role in the sucess of any organization. Efficiently managing the flow of goods, information, and finance across the entire supply chain can significally impact operational performance. with Power BI you can transform your supply chain analystics to actionable insights.

Supply chain analystics convert the procurement, production,distribution, and customer demand data. This allows organizations to make informed decisions, optimize processes, and reduce costs.Understanding each component is essencial for making data driven decision.

Supply chain management practice depends on Industrial engineering, system engineering, coperation

management, logistics, procurement, Information technology and marketing, and strives for an integral approach. It is the broad range of control and excute a producted flow from material to production to distribution in the most economical possible.
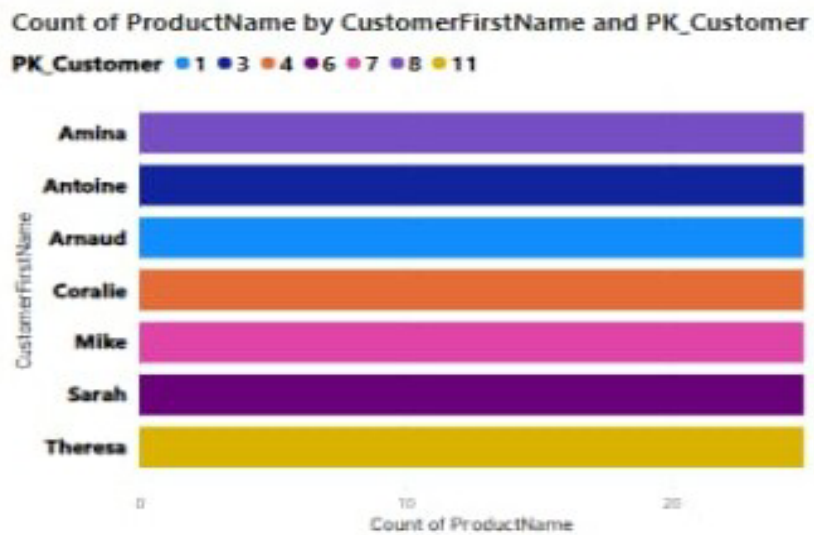
DATA SHEET:

	A	B	C	D	E	F	G	H	I	J
1	PK_Customer	CustomerCode	CustomerFirstName	CustomerLastName	Country	CountryISOCode	City	Gender	Birthdate	CustomerFullName
2	1	N79H709	Arnaud	Gastelblum	Belgium	BE	Mouscron	M	09-Apr-1982	Arnaud Gastelblum
3	2	Z92R903	Pauline	Peanut	France	FR	Villefranche sur mer	F	23-Jun-1993	Pauline Peanut
4	3	H59L252	Antoine	Legrand	Nederland	NL	Rotterdam	M	08-Jun-1984	Antoine Legrand
5	4	O30R794	Coralie	Brent	Nederland	NL	Maastricht	F	20-Apr-1962	Coralie Brent
6	5	B42W912	Julien	Pomodoro	France	FR	Roubaix	M	27-Nov-1985	Julien Pomodoro
7	6	I85S191	Sarah	Croche	France	FR	Paris	F	11-May-1959	Sarah Croche
8	7	L75A698	Mike	Jeff	Nederland	NL	Amsterdam	M	12-Dec-1976	Mike Jeff
9	8	K49A336	Amina	Loo	Belgium	BE	Brussels	F	23-Oct-1940	Amina Loo
10	9	Q44B467	Bjorn	Bio	Belgium	BE	Charleroi	M	23-Aug-1945	Bjorn Bio
11	10	Z91K849	Lisa	Dagusti	Belgium	BE	Antwerp	F	28-Nov-1957	Lisa Dagusti
12	11	K74L961	Theresa	Limande	France	FR	Strasbourg	F	12-Jun-1974	Theresa Limande
13	12	V17E452	Hilde	Vanderelst	Nederland	NL	Amsterdam	F	19-Oct-1969	Hilde Vanderelst

VISUALIZATION IN POWER BI:

STACKED BAR CHART:

This chart shows in a **Count of Product Name by Customer FirstName and PK_Customer**

Count of ProductName by CustomerFirstName and PK_Customer
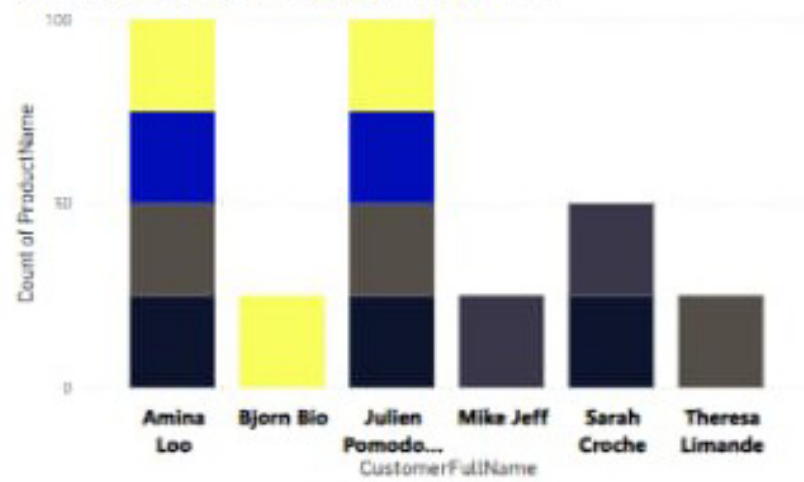
STACKED COLUMN CHART:

This chart shows in a **Count of Product Name by Customer Fullname and Total Amount.**

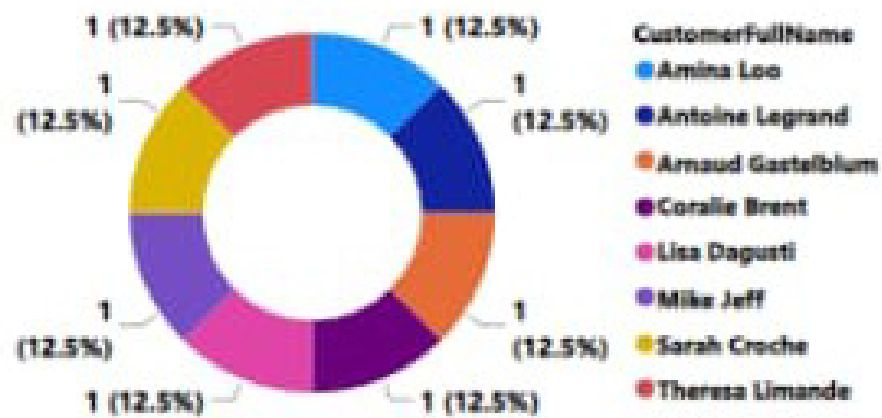Count of ProductName by CustomerFullName and TotalAmount
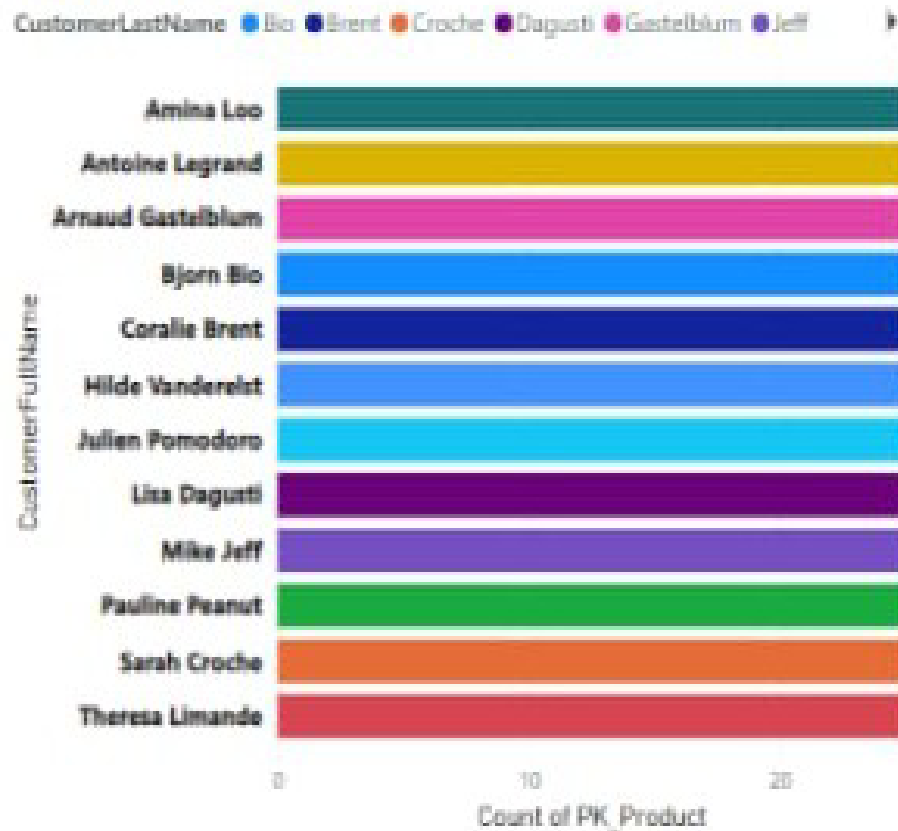
TotalAmount ●37.3 ●44.76 ●60.6 ●68.04 ●72.72

This chart shows in a **Count of PK_ Product by Customer Fullname and Customer Lastname.**

Count of PK_Customer by CustomerFullName and CustomerLastName

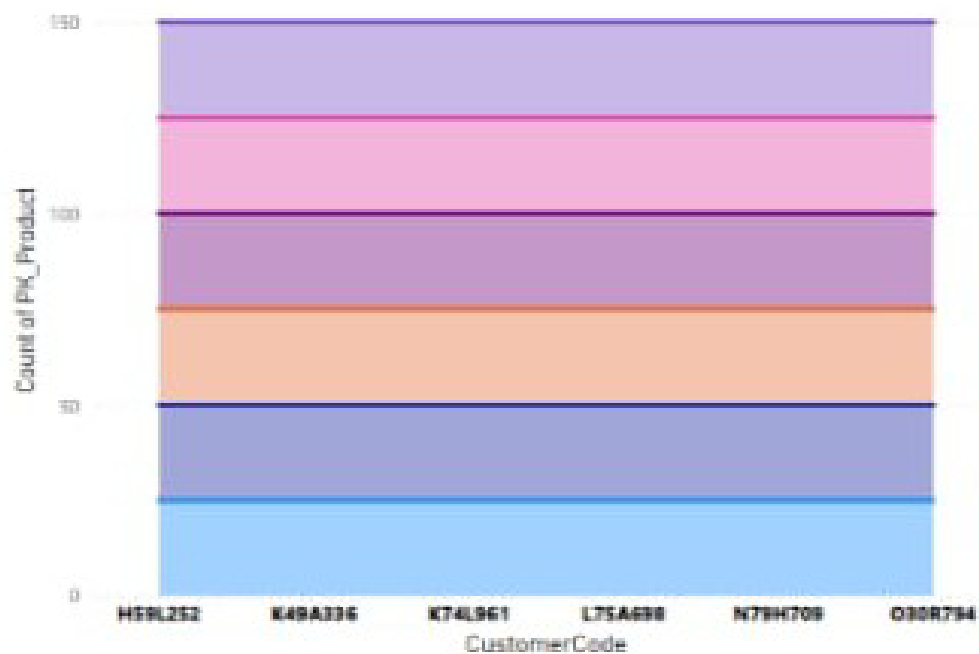Count of PK_Product by CustomerFullName and CustomerLastName

CustomerLastName ● Bio ● Brent ● Croche ● Dagusti ● Gastelblum ● Jeff ▶

RIBBON CHART:

This chart shows in a **Count of PK_product by Customer code and Quantity.**
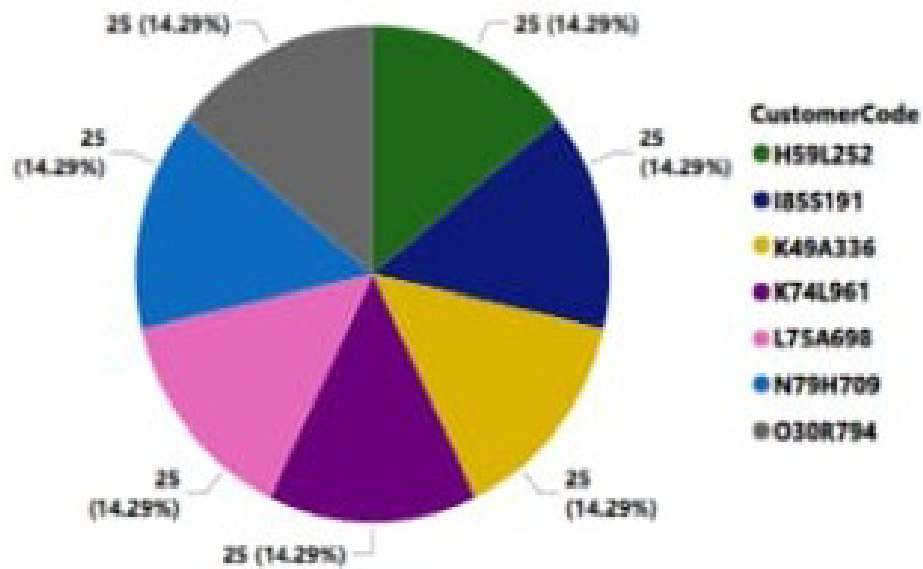
Count of PK_Product by CustomerCode and Quantity

Quantity ● 1 ● 2 ● 3 ● 4 ● 5 ● 6

PIE CHART:

This chart shows in a **Count of PK_product by Customer code and FK_ Customer.**

Count of PK_Product by CustomerCode and FK_Customer

CustomerCode
- H59L252
- I85S191
- K49A336
- K74L961
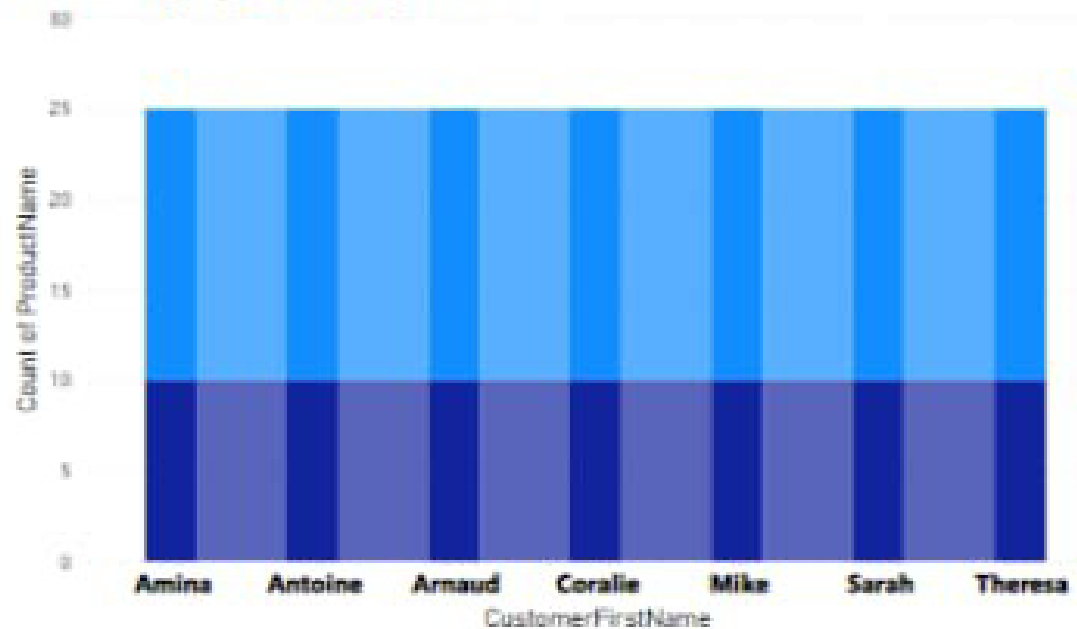- L75A698
- N79H709
- O30R794

COLOUMN CHART:

 This chart shows in a **Count of Product name by Customer Firstname and product category**

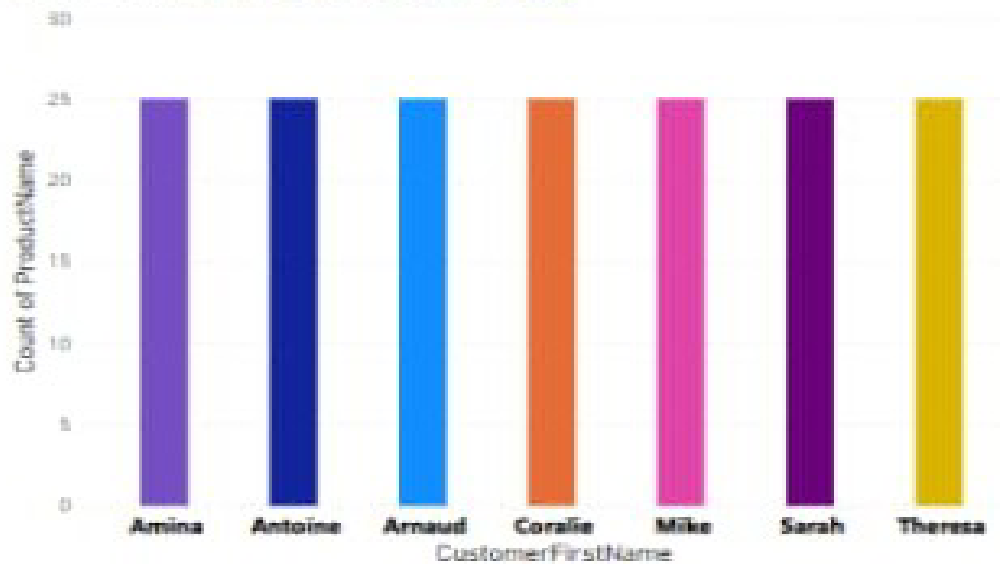Count of ProductName by CustomerFirstName and ProductCategory

RIBBON CHART:

This chart shows in a **Count of Product name by Customer Firstname and PK_ Customer.**

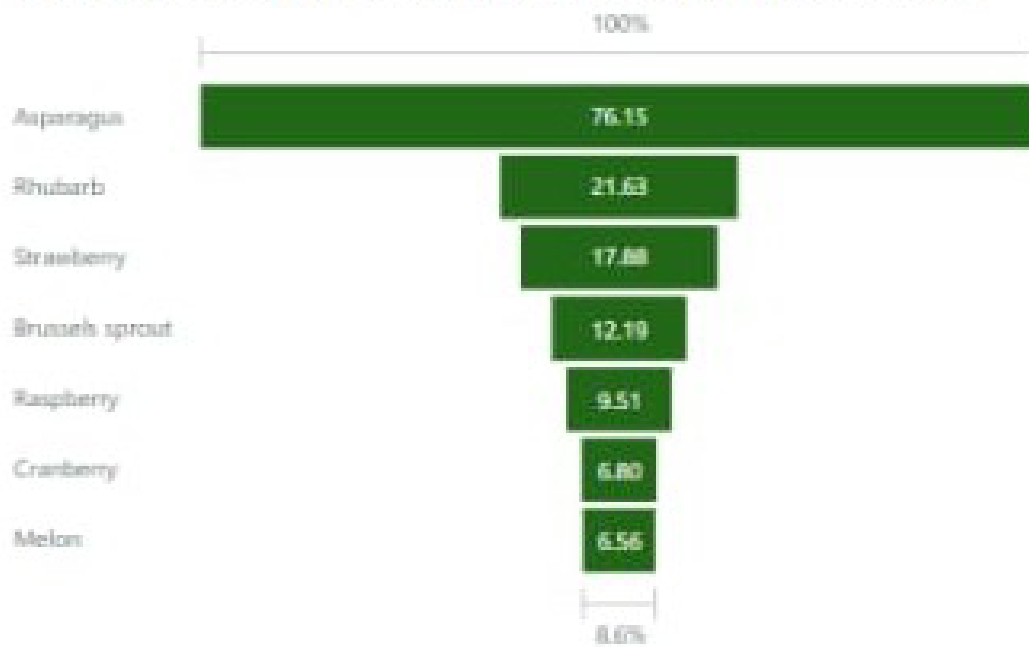Count of ProductName by CustomerFirstName and PK_Customer

PK_Customer ●1 ●3 ●4 ●6 ●7 ●8 ●11

FUNNEL CHART:

This chart shows in a **Sum of Discount and Count of FK_ Customer by Product Name.**

Sum of Discount and Count of FK_Customer by ProductName

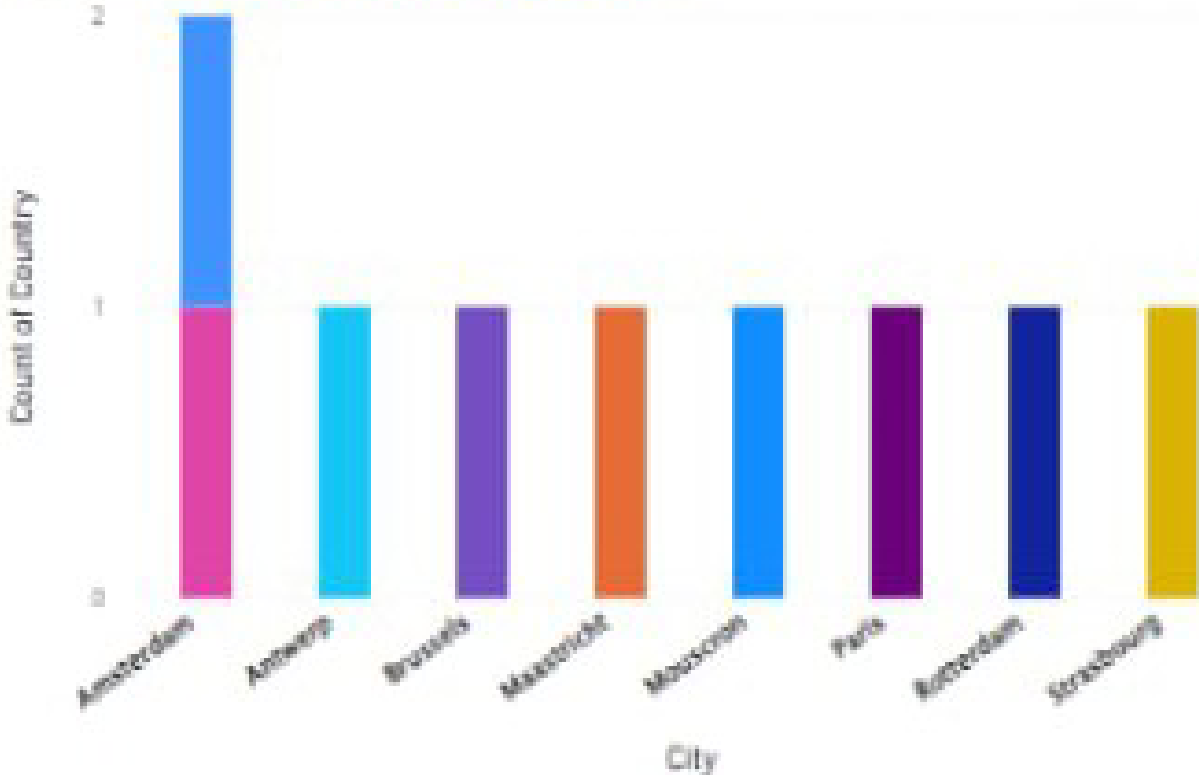|	
Asparagus	76.15
Rhubarb	21.63
Strawberry	17.88
Brussels sprout	12.19
Raspberry	9.51
Cranberry	6.80
Melon	6.56

COLUMN CHART:

This chart shows in a **Count of Country by City andPK_ Customer**

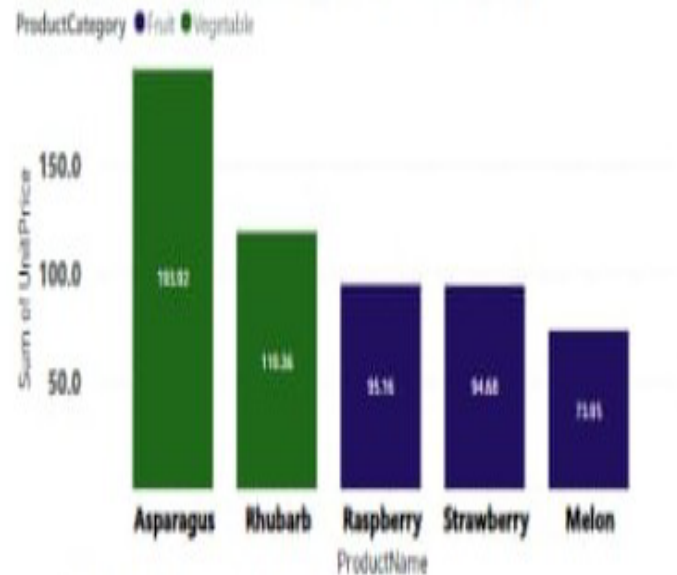# Count of Country by City and PK_Customer

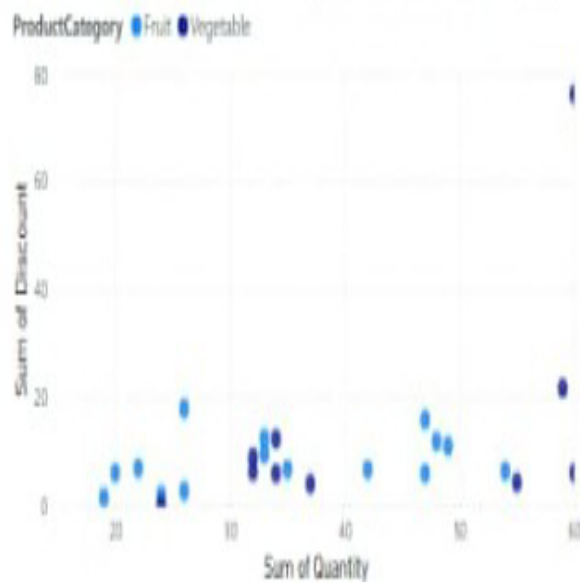PK_Customer ● 1 ● 3 ● 4 ● 6 ● 7 ● 8 ● 10 ● 11 ● 12

DASHBOARD AND REPORT:

Most Quantity Purchased by Customer

100%

Amina Loo
Coralie Brent
Theresa Limande — 329.81
Arnaud Gastelblum
Julien Pomodoro — 305.67
Hilde Vanderelst
Antoine Legrand — 290.31
Bjorn Bes
Sarah Croche — 274.13
Mike Jeff
Pauline Peanut — 237.40
Lisa Dagusti

43.0%

Sum of UnitPrice by ProductName and ProductCategory

ProductCategory ● Fruit ● Vegetable

Sum of UnitPrice

150.0

100.0

50.0

Asparagus 181.92
Rhubarb 118.36
Raspberry 95.16
Strawberry 94.68
Melon 73.05

ProductName

Sum of Quantity and Sum of Discount by UnitPrice and ProductCategory

ProductCategory ● Fruit ● Vegetable

Sum of Discount

Sum of Quantity

Sum of TotalAmount by Year and Gender

Gender ● F ● M

Sum of TotalAmount

Year

REPORTS:

Power BI numerous benefits for project tracking . one of the main advantages is its ability to consolidate data from multiple sourses,

such as project management tools, financial systems and spreadsheets . This allows project manager to have a holistic view of the project , making it easier to identify trends, patterns, and anomalies . Power BI advanced visuailazations enable the creation for intuitive dashboards, making its effortless to track the project progress at a glance. Furethermore , Power BI interactive features allow to explore and drill into the data , gaining deeper insights into the project performance.

Another benefits of using Power BI of the project the king is its ability to automate data refreshes. With Power BI , project manager can set up scheduled refreshes to ensure that the data is always up to date. This eliminates the need for manual data update and reduce the risk of using outdated information for decisin-making.

In addition , Power BI offer a wide range of collabration features that enhance team collabration features that collabration and communication. Projrct teams can easily share dashboard and reports with Stakholders, enabling real time annotaions to specific data points, facilitings discussion and improving the overall project tracking process.

CONCLUSION :

Microsoft Power BI is an indispensable tool in the real of business intelligence. Its robust features, easy of use, and ability to transform raw data into actionable insights make it a top choice for organization worldwide. As you wrap up Power BI project, consider the following key points:

DATA CONNECTIVITY: Power BI's extensive connector librally allows seamless integration with various data sources, including google Analytics, SQL database, and more

CUSTOM VISULAISATION: Leverage Power BI's   pre-designed visuailation to create interactive reports tailored to your specific needs. Aditionally explore third-party solutions like Fluenpro's report packs for enhanced intelligence and analystics.

PERFORMANCE OPTIMIZATION: The columnar databace engine within Power BI significantly improve performance by compressing large datasets, making it an effect choice for data modeling